Abstracts

Thermally stabilized flip-chip mounted monolithic oscillators using CPW technology

T. Hirose, T. Tomioka, S. Yokokawa, T. Shimura and Y. Watanabe. "Thermally stabilized flip-chip mounted monolithic oscillators using CPW technology." 1999 MTT-S International Microwave Symposium Digest 99.1 (1999 Vol. I [MWSYM]): 95-98 vol.1.

We have designed and fabricated a flip-chip mounted Ka-band monolithic oscillator using 0.15 /spl mu/m gate InGaP-InGaAs HEMT device and incorporating CPW technology. We obtained a thermal stability of 1.8 ppm//spl deg/C for the oscillation frequency. An asymmetric source feedback circuit topology was employed in order to optimize the feedback circuit and minimize chip area. We also demonstrate the thermal stability analysis to evaluate the contributions of the flip-chip micro-pillar thermal resistance.

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